

IN THE CLAIMS:

The following is a complete listing of claims in this application.

Claims 1-13 (canceled).

14. (new) Method for producing a carbon element having a honeycomb-shaped structure, comprising the steps of:

obtaining a resin-impregnated, paper or fleece base body with a honeycomb-shape;

pyrolyzing the honeycomb-shaped, resin-impregnated, paper or fleece base body;

stabilizing and/or compressing the pyrolyzed base body;

coating the stabilized and/or compressed, pyrolyzed base body with a carbon-containing solution; and

pyrolyzing the coated, stabilized and/or compressed, pyrolyzed base body to obtain the carbon element.

15. (new) Method pursuant to claim 14, wherein the base body comprises a resin-impregnated Aramid paper.

16. (new) Method pursuant to claim 14, wherein the stabilizing and/or compressing comprises material precipitation from the gaseous phase.

17. (new) Method pursuant to claim 16, wherein the stabilizing and/or compressing comprises CVI and/or CVD precipitation with at least one of C, SiC, B₄C and Si.

18. (new) Method pursuant to claim 14, wherein the stabilizing and/or compressing comprises forming an SiC or PyC layer on the pyrolyzed base body.

19. (new) Method pursuant to claim 14, additionally comprising coating the pyrolyzed and stabilized and/or compressed base body with a ceramic slip, and converting the slip into ceramic.

20. (new) Method pursuant to claim 19, wherein the ceramic is SiC.

21. (new) Method pursuant to claim 14, wherein the step

of pyrolyzing the honeycomb-shaped, resin-impregnated, paper or fleece base body comprises carbonizing at a temperature T_1 of $850^{\circ}\text{C} \leq T_1 \leq 1100^{\circ}\text{C}$.

22. (new) Method pursuant to claim 21, wherein $900^{\circ}\text{C} \leq T_1 \leq 1000^{\circ}\text{C}$.

23. (new) Method pursuant to claim 14, wherein the step of pyrolyzing the honeycomb-shaped, resin-impregnated, paper or fleece base body comprises graphitizing at a temperature T_2 of $1700^{\circ}\text{C} \leq T_2 \leq 3100^{\circ}\text{C}$.

24. (new) Method pursuant to claim 23, wherein $1800^{\circ}\text{C} \leq T_2 \leq 2450^{\circ}\text{C}$.

25. (new) Method pursuant to claim 14, wherein the base body comprises high temperature stable carbon or SiC fibers.

26. (new) Method pursuant to claim 14, wherein the base body comprises fibers with a high carbon residue content selected from the group consisting of phenolic resin fibers, Aramid fibers, flax fibers, hemp fibers, and other cellulosic fibers.

27. (new) Method pursuant to claim 14, additionally comprising at least one additional sequence of steps of coating the carbon element with a carbon-containing solution and pyrolyzing the coated carbon element.

28. (new) Method pursuant to claim 14, wherein the pyrolyzed, stabilized and/or compressed base body is siliconized.